

# INSPECTION AND INTERIOR CLEANING (SEDIMENT REMOVAL) OF THE GREAT HILL 750,000-GALLON WELDED STEEL WATER STORAGE TANK

# TOWN OF NEWMARKET WATER DEPARTMENT NEWMARKET, NEW HAMPSHIRE

MAY 23, 2018





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# SCOPE:

On May 23, 2018 Underwater Solutions Inc. conducted an inspection of the Great Hill 750,000-gallon welded steel potable water storage tank to provide information regarding the overall condition and integrity of this tank and removed the sediment accumulation from the floor.

#### **EXTERIOR INSPECTION:**

The entire exterior of this water storage tank (and components) was inspected to include walls and coating, foundation, manways, ladder, overflow, roof, vent and hatches.

# Walls And Coating

The exterior steel wall panels and associated welds were inspected and found appearing sound and remain free of obvious fatigue or failures at this time.

The average dry film thickness of the protective coating system applied to the exterior welded steel wall panels was measured during this inspection. The dry film thickness of the coating system applied to the exterior wall surfaces was found as follows:

Row	Mil Thickness	Row	Mil Thickness
1.	10.3 mils	6.	14.5 mils
2.	17.6 mils	7.	17.5 mils
3.	15.7 mils	8.	13.8 mils
4.	15.4 mils		
5.	19.4 mils		

The American Water Works Association (AWWA) recommends a dry film thickness of 7.0 to 10.0 mils of coating film thickness be applied to the exterior surfaces of welded steel potable water storage tanks to provide adequate protection for welded steel structures.

The protective coating applied to the exterior walls appears to have been applied uniformly, meets the AWWA's recommendations and was found having mostly good adhesion value, however numerous areas of coating damage appearing to be the result of objects striking the tank and causing steel exposure were observed throughout approximately 5% of the three lowest rows of wall panels. No obvious fatigue/deterioration of the steel was evident within these 1/4" to 1" diameter areas of steel exposure, rather mild corrosion exists at this time.

Secondary coating adhesion loss was also observed throughout approximately 10% of the lower 10' of the exterior walls, resulting in exposure of the primary coating.

A mild to moderate, non-uniform accumulation of mildew throughout the exterior walls causes declined aesthetics.

#### Foundation

The 3" wide concrete foundation ranges from 1" to 21" in height and was found having tight cracks throughout approximately 5% of these exposed surfaces. These cracks were sounded and appeared to be limited to the surface of the concrete and free of obvious voids or spalls at this time. The protective coating applied to the top face of the foundation was found having good adhesion value, yet no longer seals the cracks found throughout these surfaces.

The sealant applied throughout the circumference of the tank at the junction of where the foundation and tank base meet was found having good adhesion value, preventing moisture from penetrating and accumulating beneath the tank.

#### Manways

Two, 24" inside diameter manways penetrate the lowest row of wall panels on the easternmost and westernmost sides of the tank, located approximately 18" above the tank base and are securely installed and free of obvious leakage.

The protective coating applied to the easternmost manway has an average dry film thickness of 10.0 mils, meets the AWWA's recommendation and was found having good adhesion value.

The protective coating applied to the davit support arm was found having mostly good adhesion value, however isolated areas of coating loss were observed throughout approximately 20% of these surfaces causing steel exposure and corrosion. However, this steel davit arm remains sound and free of obvious fatigue/deterioration at this time.

The protective coating applied to the westernmost manway has an average dry film thickness of 10.8 mils, meets the AWWA's recommendation and was found having good adhesion value. The protective coating applied to the davit support arm was found having mostly good adhesion value, however isolated areas of coating loss were observed throughout approximately 20% of these surfaces causing steel exposure and corrosion. However, this steel davit arm remains sound and free of obvious fatigue/deterioration at this time.

# Ladder

A welded steel ladder extends from 20' above the ground up to the roof, supported to the tank wall with five sets of welded standoffs and having a galvanized steel fall prevention device installed throughout its length.

This ladder and fall prevention device remains in good sound condition, providing safe access to the roof.

The protective coating applied to this ladder remains having good adhesion value and the galvanized coating applied to the fall prevention device remains having good adhesion value at this time.

A second welded steel ladder extends from the edge of the roof dome up to the vent, supported to the roof with three sets of welded standoffs. This ladder remains in good sound condition, providing good access to the vent.

The protective coating applied to this steel ladder appears to have been applied uniformly, although a decline in the coating film thickness causes minimal steel exposure and corrosion. However, this ladder remains sound and free of obvious fatigue/deterioration.

# **Overflow**

A 4" inside diameter overflow pipe penetrates the top wall panel approximately 7' below the junction of where the roof and walls meet, extends out from the tank 12" and terminates.

This overflow pipe was free of obvious obstructions and was found with a screen installed over its end, preventing access to the interior of the tank.

The protective coating applied to this metal pipe was found having good adhesion value at this time.

### Roof

The steel roof panels and associated welds were inspected and found appearing sound and remain free of obvious fatigue or failures.

The protective coating applied to the roof has an average dry film thickness of 20.0 mils and appears to have been applied uniformly, meets the AWWA's recommendations and was found having good adhesion value; however, the protective coating has become chalky due to weathering.

A galvanized steel antenna bracket has been welded to the roof and the welding of this bracket has caused coating damage, steel exposure and corrosion. However, no obvious fatigue/deterioration of the steel was evident at this time.

#### Vent

The vent is located within the center of the roof, having a 12" inside diameter, and stands approximately 20" tall.

A 26" outside diameter steel cap and associated screen remains securely installed over the vent penetration in the roof, preventing access to the interior of the tank.

The protective coating applied to this steel vent assembly has an average dry film thickness of 9.7 mils, appears to have been applied uniformly, meets the AWWA's recommendations and remains having good adhesion value, however has become chalky due to weathering.

#### Hatches

One, 24" inside diameter hatch and one 23-1/2" inside diameter hatch provide access to the interior through the roof.

The 23-1/2" inside diameter hatch remains in good working condition and was found secured with a lock, preventing unwanted access to the interior of the tank.

The 24" inside diameter hatch is secured with a series of nuts and bolts, preventing unwanted access, and was not utilized at this time.

The protective coating applied to each steel hatch was found having good adhesion value at this time.

#### **INTERIOR INSPECTION:**

The entire interior of this water storage tank (and components) was inspected to include sediment accumulations, floor, manways, piping, walls and coating, overhead, overflow and aesthetic water quality.

## Sediment Accumulations

A uniform layer of accumulated precipitate was found throughout the floor, having depths no greater than 1/16" deep.

After completing this inspection, all precipitate was removed (vacuumed) from the floor.

#### Floor

After removing all accumulated precipitate, the steel floor panels and associated welds were inspected and found appearing sound and free of obvious fatigue or failures.

The protective coating applied to these welded steel surfaces has an average dry film thickness of 5.1 mils, is below the AWWA's recommendations, was found having poor adhesion value and is blistering throughout approximately 25% of these surfaces. Approximately 10% of these coating blisters have ruptured, resulting in exposure of the underlying steel. No obvious fatigue/deterioration of the steel was evident within these areas of exposure, rather mild corrosion exists at this time.

Mild staining remains throughout all floor surfaces due to the accumulation of precipitate.

## Manways

Two, 24" inside diameter manways penetrate the lowest row of wall panels on the easternmost and westernmost sides of the tank, located approximately 18" above the tank floor, and are securely installed and free of obvious leakage.

The protective coating applied to the easternmost manway has an average dry film thickness of 5.5 mils, is below the AWWA's recommendation and was found to be blistering throughout approximately 15% of the circumference of the manway trunk at the location where the manway trunk and manway lid contact. No obvious fatigue/deterioration of the steel was evident within these areas of exposure, rather mild corrosion and corrosion staining exists at this time.

The protective coating applied to the westernmost manway has an average dry film thickness of 1.5 mils, is below the AWWA's recommendations and has nearly expired. Coating blisters were observed throughout approximately 20% of the surfaces of the manway lid and trunk, resulting in exposure of the underlying steel. No obvious fatigue/deterioration of the steel was evident within these areas of exposure, rather mild corrosion and corrosion staining exist at this time.

# **Piping**

The influent/effluent pipe penetrates the floor approximately 25" in from the wall on the northernmost side of the tank, having a 12" inside diameter, and is flush in the floor. A 12" inside diameter by 6" tall removable riser is installed above this penetration serving as a silt stop.

This pipe was free of obvious obstructions and flow was entering the tank through this pipe at the time of this inspection.

# Walls And Coating

The interior walls were inspected beginning at the floor and by spiraling the circumference of the tank up to the water surface.

These steel wall panels and associated welds appeared sound and remain free of obvious fatigue or failures.

The average dry film thickness of the protective coating system applied to the interior welded steel wall panels was measured during this inspection. The dry film thickness of the coating system applied to the interior wall surfaces was found as follows:

Row	Mil Thickness	Row	Mil Thickness
1.	5.8 mils	6.	4.4 mils
2.	6.4 mils	7.	7.0 mils
3.	7.1 mils	8.	9.0 mils
4.	4.2 mils		
5.	4.3 mils		

The American Water Works Association (AWWA) recommends a dry film thickness of 10.5 to 15.5 mils of coating film thickness be applied to the interior surfaces of welded steel potable water storage tanks to provide adequate protection for welded steel structures.

The protective coating applied to the interior walls appears to have been applied uniformly, although is below the AWWA's recommendation. However, the protective coating applied to these surfaces was found having mostly good adhesion value at this time.

Adhesion loss (blistering) of the protective coating was observed throughout approximately 5% of the weld at the junction of where the floor and lowest row of wall panels meet. No obvious fatigue (pitting) of this steel weld was evident within these areas of exposure, rather mild corrosion exists at this time.

Adhesion loss (blistering and peeling) of the protective coating was also observed throughout approximately 5-10% of these surfaces and was observed throughout all elevations of the interior walls, resulting in exposure of the underlying steel. No obvious fatigue/deterioration of the steel was evident within these 1/8"-1/2" diameter to 10' long by 2" wide areas of exposure, rather mild corrosion exists at this time.

The angle iron painters ring that spans the circumference of the top row of wall panels, located approximately 30" below the junction of where the roof and walls meet, was found securely welded in-place and free of obvious fatigue or failures. The protective coating applied to these steel surfaces appears to have been applied uniformly, however adhesion loss of the protective coating was observed throughout approximately 5% of these surfaces resulting in exposure of the underlying steel. No obvious fatigue (pitting) of the steel was evident within these areas of exposure, rather mild corrosion and corrosion staining exists at this time.

Mild staining exists throughout the interior walls, beginning approximately 36" below overflow level and extending down to the floor.

#### Overhead

The entire overhead was inspected from the water surface.

These steel panels and angle iron supports appeared sound and remain free of obvious fatigue or failures.

The protective coating applied to the steel panels and angle iron supports has an average dry film thickness of 10.6 mils, appears to have been applied uniformly, meets the minimum dry film thickness recommended by the AWWA and remains having mostly good adhesion value. While rust stain was observed throughout approximately 35% of the edges of the steel panels and angle iron supports, no obvious fatigue/deterioration of the steel was evident at the time of this inspection.

Numerous areas of coating damage were observed throughout the outer circumference of the overhead, which appeared to be the result of the welding completed on the exterior of the roof. These areas of coating damage have resulted in exposure of the underlying steel. Mild corrosion exists within these areas of steel exposure, however no obvious fatigue/deterioration of the steel was evident at the time of this inspection.

#### Overflow

The overflow consists of a 4" inside diameter pipe penetrating the top wall panel, located approximately 7' below the roof and wall junction.

This steel pipe extends into the tank 10" through a 90° elbow directing the pipe upward before it flares out to a 10" inside diameter and terminates approximately 1" below the junction of where the roof and walls meet. This pipe remains securely supported to the tank wall with one welded standoff. This overflow pipe was free of obvious obstructions at the time of this inspection.

The protective coating applied to this steel pipe appears to have been applied uniformly and was found having mostly good adhesion value, however adhesion loss (blistering) of the protective coating was observed throughout approximately 5% of this pipe resulting in exposure of the underlying steel. No obvious fatigue/deterioration of the steel was evident within these areas of exposure, rather mild surface corrosion exists at this time.

# Aesthetic Water Quality

The aesthetic water quality was good throughout the tank allowing unlimited visibility for this inspection.

## **RECOMMENDATIONS:**

It is the opinion of Underwater Solutions Inc. that this welded steel potable water storage tank appears mostly sound and remains free of obvious leakage.

#### EXTERIOR:

The exterior steel wall panels and associated welds appeared sound and remain free of obvious fatigue or failures at this time.

The protective coating applied to these welded steel surfaces appears to have been applied uniformly and meets the AWWA's recommendations; however, numerous areas of coating damage appearing to be the result of objects striking the tank were observed throughout the three lowest rows of wall panels, resulting in exposure of the underlying steel. No obvious fatigue/deterioration of the steel was evident within these 1/4" to 1" diameter areas of steel exposure, rather mild corrosion exists at this time.

Secondary coating adhesion loss was also observed throughout approximately 10% of the lower 10' of the exterior walls, resulting in exposure of the primary coating.

A mild to moderate, non-uniform accumulation of mildew throughout the exterior walls causes declined aesthetics.

It is our recommendation to pressure-wash the exterior wall surfaces at 3,500 P.S.I. and at 3.5 G.P.M. to remove the accumulated mildew from these surfaces and to power tool clean all areas of coating fatigue found throughout these surfaces to remove all corrosion and to prepare the substrate. We then recommend re-coating these areas to halt corrosion, prevent steel fatigue/deterioration and to provide good protection for the steel while improving the overall aesthetics.

The steel roof panels and associated welds were found appearing sound and remain free of obvious fatigue or failures.

The protective coating applied to the roof appears to have been applied uniformly, meets the AWWA's recommendations and was found having good adhesion value, yet has become chalky due to weathering, while welding completed on the roof exterior has caused damage to the protective coating and causes steel exposure.

It is our recommendation to pressure-wash the roof at 2,000 P.S.I. to remove the chalking from the roof and to improve the overall aesthetics, and to power tool clean the surfaces of the roof having coating damage and steel exposure to remove all corrosion and to prepare the substrate. We then recommend re-coating these areas to halt corrosion, prevent steel fatigue and to provide good protection for the steel.

The protective coating applied to each manway remains having good adhesion value, while the protective coating applied to the davit support arm associated with each manway was found having mostly good adhesion value. Isolated areas of coating loss were observed throughout approximately 20% of these surfaces causing steel exposure and corrosion, however each steel davit arm remains sound and free of obvious fatigue/deterioration at this time.

It is our recommendation to power/hand-tool clean the surfaces of each davit arm to remove all corrosion. We then recommend re-coating the surfaces of each davit arm that do not pivot and applying a moisture barrier (lithium grease) to the pivot points on each davit arm to protect the steel and prevent corrosion.

The protective coating applied to the welded steel ladder that extends from the edge of the roof to the vent appears to have been applied uniformly, although a decline in the coating film thickness causes minimal steel exposure and corrosion. However, this ladder remains sound and free of obvious fatigue/deterioration.

It is our recommendation to power/hand-tool clean the surfaces of this ladder showing steel exposure to remove all corrosion and to prepare the substrate. We then recommend re-coating these surfaces to halt corrosion, prevent steel fatigue and to provide good protection for these steel surfaces.

The exposed surfaces of the concrete foundation were found having tight cracks throughout approximately 5% of all exposed surfaces. These cracks were sounded and appeared to be limited to the surface of the concrete and are free of obvious voids or spalls. Although the protective coating applied to the top face of the foundation was found having good adhesion value, the protective coating no longer seals the cracks found throughout these surfaces.

It is our recommendation that when the exterior walls are pressure-washed that the exposed surfaces of the foundation be pressure-washed to remove all soiling from these surfaces and to then coat all exposed surfaces of the foundation using an epoxy/polyurethane flexible coating to seal all cracks and to seal and protect these exposed concrete surfaces.

All components affixed to the exterior of this tank were found properly installed at this time.

The cap and screen installed over the vent penetration in the roof remains secure, preventing access to the interior of the tank

One access hatch located on the roof was found secured with nuts and bolts, while the second access hatch located on the roof was found secured with a lock, preventing access to the interior of the tank.

The screen installed at the end of the overflow pipe appears to be securely installed, preventing access to the interior of the tank.

#### *INTERIOR:*

The interior welded steel floor and wall surfaces appeared sound and remain free of obvious fatigue or failures at this time. The protective coating applied to these surfaces was found having an average dry film thickness that is below the AWWA's recommendations and although the coating system appears to have been applied uniformly, adhesion loss of the protective coating, exposed steel and surface corrosion were observed throughout these surfaces, as well as the steel surfaces of each manway and interior overflow pipe, indicating that the protective coating applied to these surfaces is nearing expiration.

The steel overhead panels and angle iron supports appeared sound and remain free of obvious fatigue or failures at this time.

The protective coating applied to the steel panels and angle iron supports appears to have been applied uniformly, meets the minimum dry film thickness recommended by the AWWA and remains having mostly good adhesion value. However, a rust stain was observed throughout approximately 35% of the edges of the steel panels and angle iron supports, while numerous areas of coating damage throughout the outer circumference of the overhead that appeared to be the result of the welding completed on the exterior of the roof has resulted in exposure of the underlying steel. Mild corrosion exists within these areas of steel exposure, however no obvious fatigue/deterioration of the steel was evident at this time.

It is our recommendation to abrasive blast the interior floor, wall and overhead surfaces, including all steel components within this tank, to white or near-white metal and to re-coat these surfaces using an A.N.S.I./N.S.F.61 approved coating for use in structures containing potable water to halt corrosion, prevent steel fatigue/deterioration and to provide good protection for the interior steel surfaces of the tank as well as the steel components within the tank. This work should be completed within the next five years, allowing a budget to be prepared to complete this rehabilitation.

As always, we recommend that re-inspection and cleaning of all water storage facilities be performed in accordance with state and federal mandates, A.W.W.A. standards, and completed by an experienced and authorized inspection corporation.

UNDERWATER SOLUTIONS INC.

Christoplal

Christopher A. Cole, Project Manager

This report, the conclusions, recommendations and comments prepared by Underwater Solutions Inc. are based upon spot examination from readily accessible parts of the tank. Should latent defects or conditions which vary significantly from those described in the report be discovered at a later date, these should be brought to the attention of a qualified individual at that time. These comments and recommendations should be viewed as information to be used by the Owner in determining the proper course of action and not to replace a complete set of specifications. All repairs should be done in accordance with A.W.W.A. and/or other applicable standards.



Exterior Wall With Coating Damage, Exposed Steel, Mild Corrosion And Mild To Moderate Mildew



Exterior Wall With Coating Damage, Exposed Steel,
Mild Corrosion And Mild To Moderate Mildew



3 Exterior Wall With Coating Damage, Exposed Steel, Mild Corrosion And Mild To Moderate Mildew



Exterior Wall With Coating Damage, Exposed Steel, Mild Corrosion And Mild To Moderate Mildew



5 Exterior Wall With Coating Damage, Exposed Steel, Mild Corrosion And Mild To Moderate Mildew



6 Exterior Wall With Coating Damage, Exposed Steel, Mild Corrosion And Mild To Moderate Mildew



7 Exterior Wall With Coating Damage, Exposed Steel, Mild Corrosion And Mild To Moderate Mildew



Exterior Wall With Coating Damage, Exposed Steel,
Mild Corrosion And Mild To Moderate Mildew



9 Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



10 Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



11 Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



12 Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



17 Exterior Wall With Secondary Coating Loss, Exposed Primary Coating And Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew 21



Exterior Wall With Mild To Moderate Mildew 22



Exterior Wall With Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew



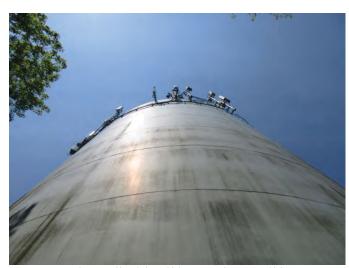
Exterior Wall With Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew



Exterior Wall With Mild To Moderate Mildew 28



Concrete Foundation With Tight Cracks





Concrete Foundation With Tight Cracks 31



Concrete Foundation With Tight Cracks



33



Manway Davit Support Arm With Coating Loss, Exposed Steel And Corrosion



Manway Davit Support Arm With Coating Loss, Exposed Steel And Corrosion



Secure Manway



37 Manway Davit Support Arm With Coating Loss, Exposed Steel And Corrosion



Manway Davit Support Arm With Coating Loss, 38 Exposed Steel And Corrosion



Ladder With A Fall Prevention Device



40 Ladder With A Fall Prevention Device



1 Vent Access Ladder



Secure Overflow Pipe Screen



Steel Roof Panels With Coating Loss/ Chalking Due To Weathering



Steel Roof Panels With Coating Loss/ Chalking Due
44 To Weathering



45 Steel Roof Panels With Coating Loss/ Chalking Due To Weathering



Steel Roof Panels With Coating Loss/ Chalking Due To Weathering



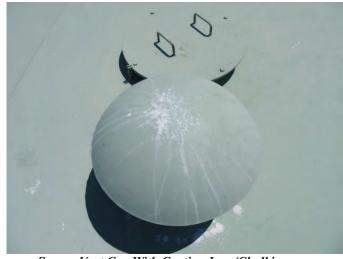
Steel Roof Panels With Coating Loss/ Chalking Due To Weathering



Antenna Bracket Welded To The Steel Roof Panels With Coating Damage, Exposed Steel And Corrosion



49 Antenna Bracket Welded To The Steel Roof Panels With Coating Damage, Exposed Steel And Corrosion



Secure Vent Cap With Coating Loss/Chalking



Secure Vent Screen 51



Secure Access Hatch 52



Open Access Hatch



Closed Access Hatch



Secure Access Hatch



Layer Of Precipitate



57 Layer Of Precipitate



Layer Of Precipitate



Layer Of Precipitate



Floor With Ruptured Coating Blisters, Exposed Underlying Steel, Mild Corrosion And Mild Staining



61 Floor With Ruptured Coating Blisters, Exposed Underlying Steel, Mild Corrosion And Mild Staining



Floor With Ruptured Coating Blisters, Exposed
Underlying Steel, Mild Corrosion And
Mild Staining



Floor With Ruptured Coating Blisters, Exposed
Underlying Steel, Mild Corrosion And
Mild Staining



64 Floor With Ruptured Coating Blisters, Exposed Underlying Steel, Mild Corrosion And Mild Staining



65 Floor With Ruptured Coating Blisters, Exposed Underlying Steel, Mild Corrosion And Mild Staining



Floor With Mild Staining



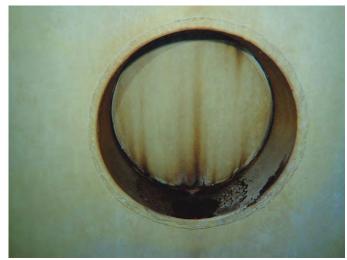
Floor With Mild Staining



Floor With Mild Staining



Floor With Mild Staining



70 Easternmost Manway Trunk With Coating Loss/ Blistering, Mild Corrosion And Corrosive Staining



71 Westernmost Manway Lid/Trunk With Expired Coating, Exposed Underlying Steel, Mild Corrosion And Corrosive Staining



77 Influent/Effluent Pipe



73 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



74 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



75 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



77 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



78 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



79 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



80 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



81 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



82 Interior Wall With Coating Loss/Blistering/Peeling, Exposed Underlying Steel, Mild Corrosion And Mild Staining



83 Angle Iron Painters Ring With Coating Loss, Exposed Underlying Steel, Mild Corrosion And Mild Staining



Angle Iron Painters Ring With Coating Loss, Exposed Underlying Steel, Mild Corrosion And Mild Staining



Angle Iron Painters Ring With Coating Loss, Exposed Underlying Steel, Mild Corrosion And Mild Staining



Interior Wall With Mild Staining



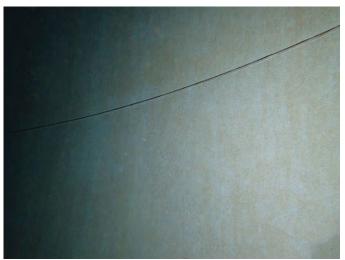
87 Interior Wall With Mild Staining



Interior Wall With Mild Staining



Interior Wall With Mild Staining



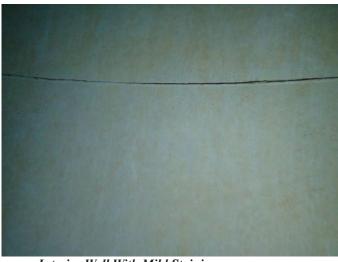
Interior Wall With Mild Staining



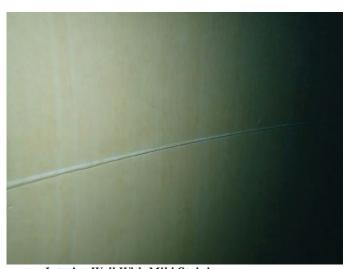
O1 Interior Wall With Mild Staining



Interior Wall With Mild Staining



Interior Wall With Mild Staining



Interior Wall With Mild Staining



Interior Wall With Mild Staining



Steel Overhead Panels And Angle Iron Supports With Rust Staining



97 Steel Overhead Panels And Angle Iron Supports With Rust Staining



Steel Overhead Panels And Angle Iron Supports With Rust Staining



99 Steel Overhead Panels And Angle Iron Supports With Rust Staining



Steel Overhead Panels And Angle Iron Supports With Rust Staining



101 Steel Overhead Panels With Coating Damage Exposed Underlying Steel And Mild Corrosion



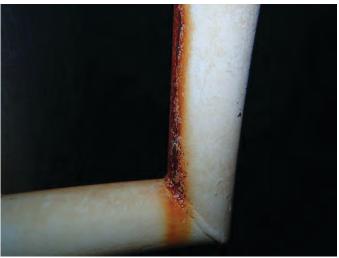
102 Steel Overhead Panels With Coating Damage Exposed Underlying Steel And Mild Corrosion



Overflow Pipe Penetrating The Tank Wall



Overflow Pipe



105 Overflow Pipe With Coating Loss/Blistering, Exposed Underlying Steel And Mild Surface Corrosion



106 Discharge During Cleaning